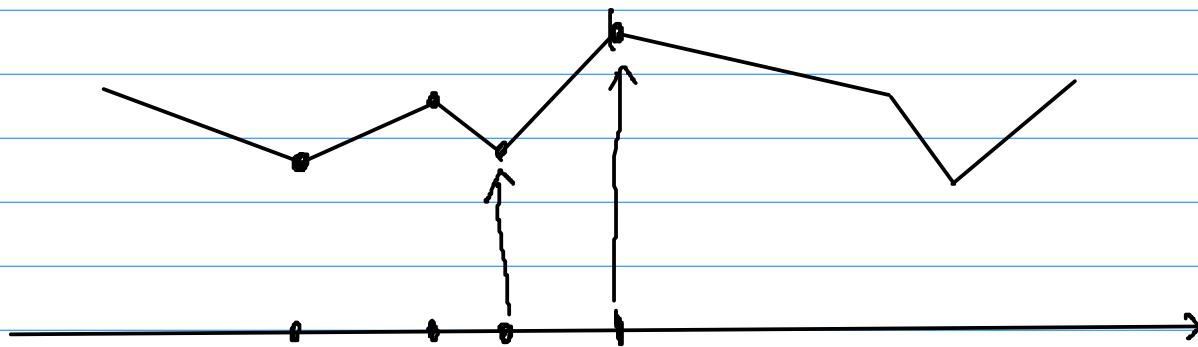
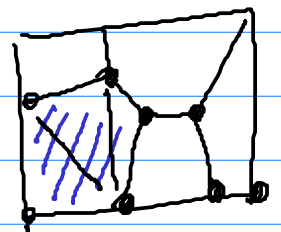
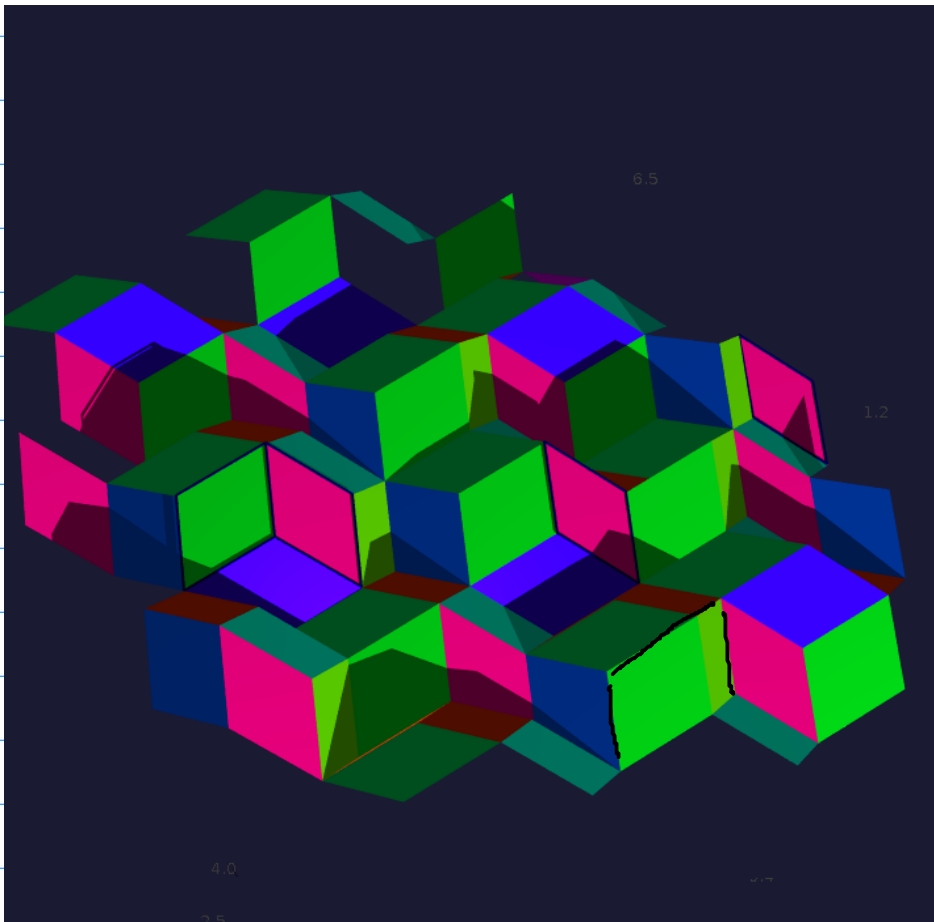


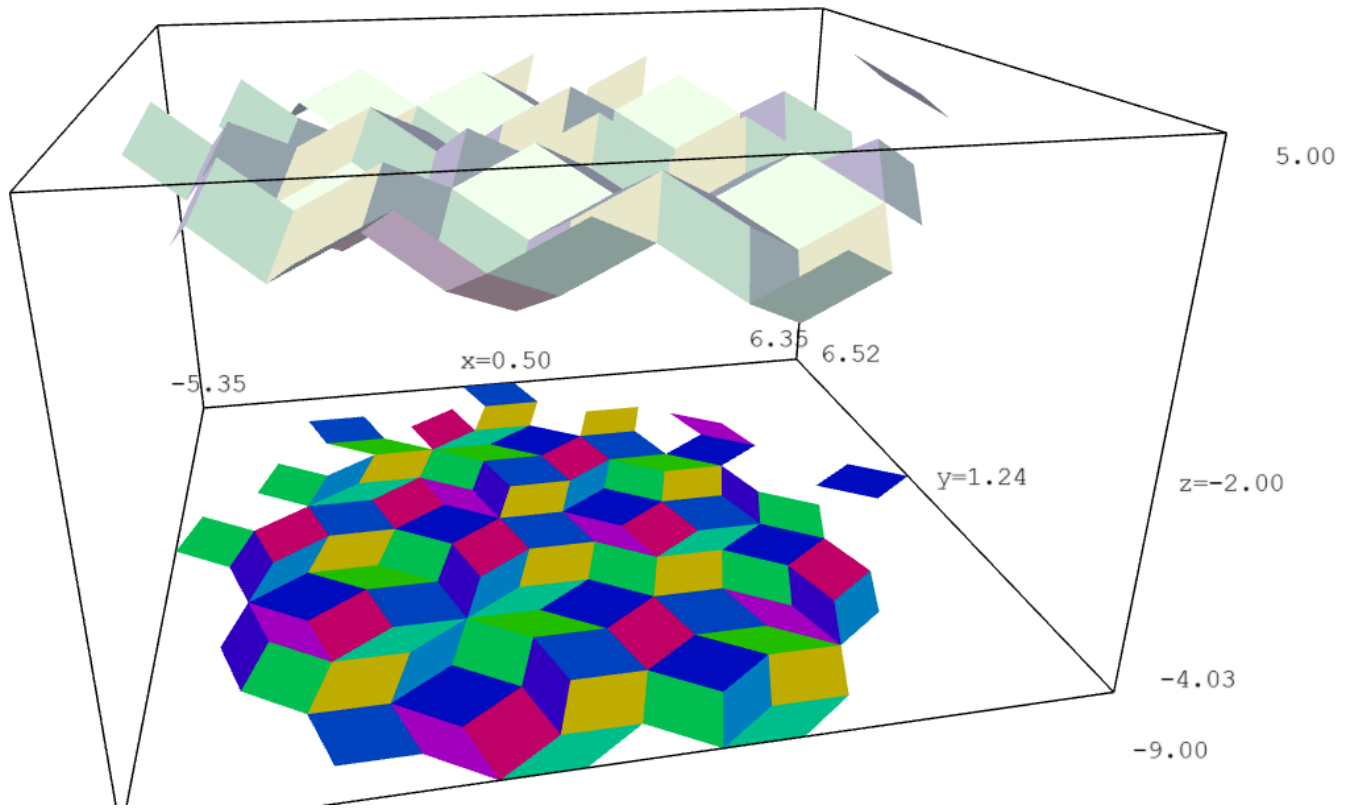
How to represent a piecewise linear continuous function



$x_1, x_2, x_3, \dots, x_n$

$\frac{y_i - y_{i-1}}{x_i - x_{i-1}}, +, -$

min, max



0,3

0

~~0~~

fractional domination games

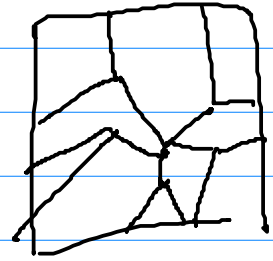
0

~~0,7~~ } 0,9
0,2

●

●

0



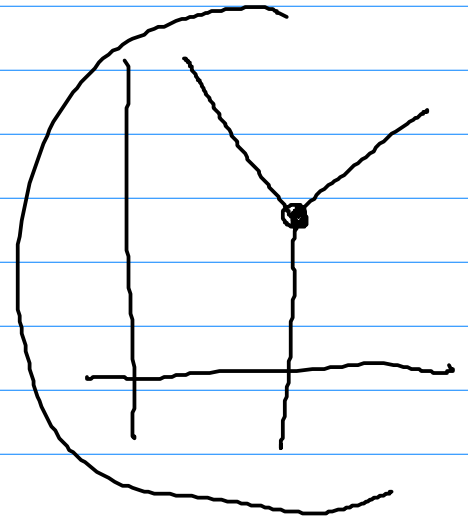
$$f_i(x) = a_i x + b$$

\uparrow \uparrow \uparrow
 $\in \mathbb{R}^n$ \mathbb{R}

p ...

$$F(x) = \sum_{|S| \leq n+1} C_S \max_{i \in S} \{f_i(x)\}$$

$S \subseteq \{1, \dots, p\}$



Amithab Basu, Marco di Summa,

Martin Skutella, Christoph Hertrich

[Wang, Sun 2005 "hinged hyperplanes"]

$$F(x) = C_1(x) - C_2(x)$$

\swarrow \searrow
 convex

$$F = \max \{f_1, f_2, f_3, \dots, f_p\}$$

$n=2$

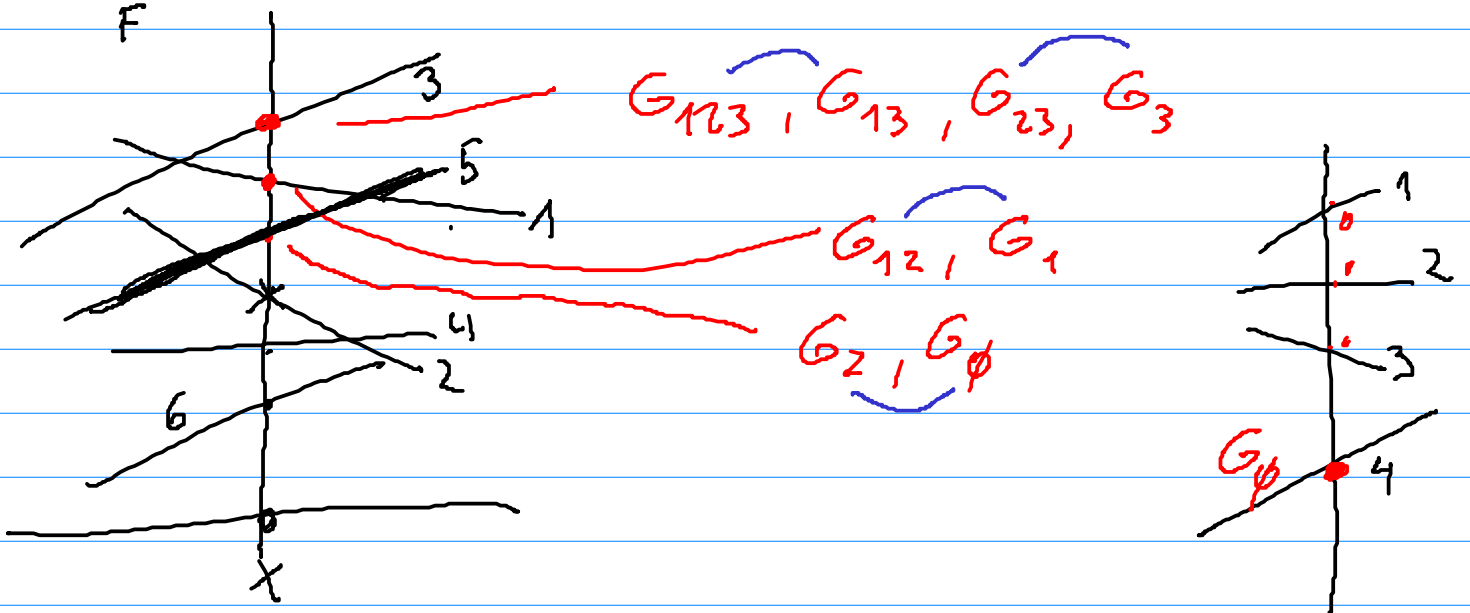
$$G_{(1,3)} = \max \{f_1, f_3, f_4, f_5, \dots, f_p\}$$

$$G_{\emptyset} = \max \{f_4, f_5, \dots, f_p\}$$

$p \geq 4$

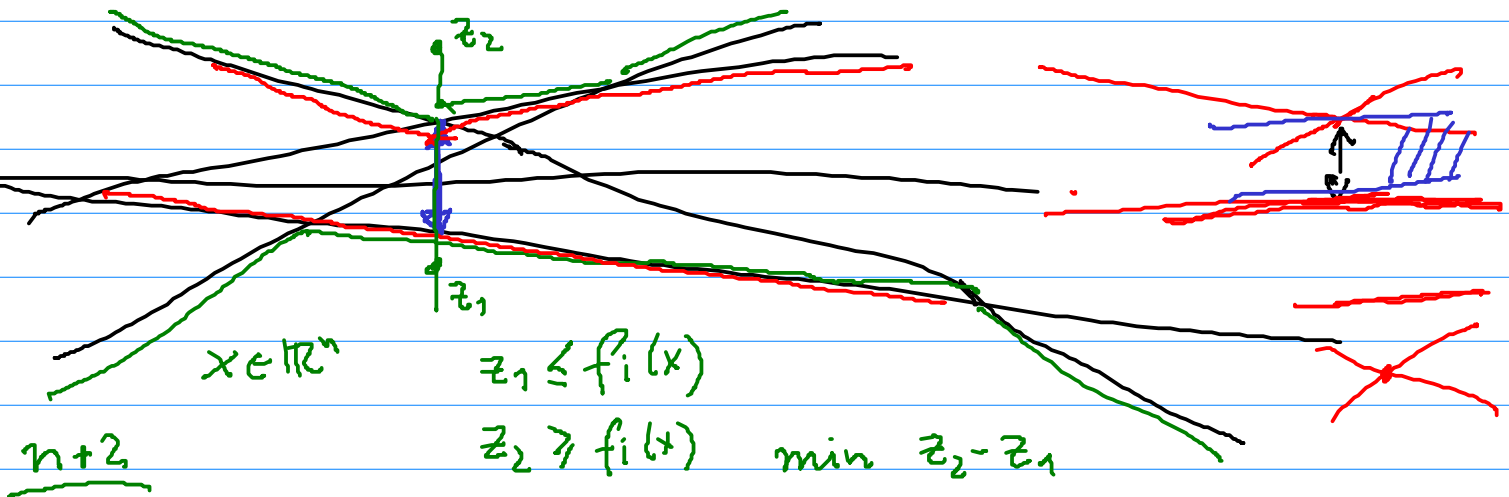
after renumbering

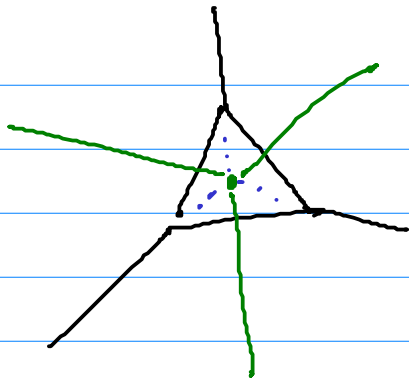
$$G_{123} + G_1 + G_2 + G_3 = G_{12} + G_{13} + G_{23} + G_{\emptyset}$$



NEED.

f_1, f_2, f_3 are never the 3 highest functions!





1 top
3 bottom

